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=> s trap? (3a) vector?  
L1 697 TRAP? (3A) VECTOR?

=> s loxP (3a) (muta? or alter?)  
L2 181 LOXP (3A) (MUTA? OR ALTER?)

=> s lox71 or lox86 or lox2272 or lox511  
L3 39 LOX71 OR LOX86 OR LOX2272 OR LOX511

=> s l1 and (l2 or l3)  
L4 10 L1 AND (L2 OR L3)

=> dup rem l4  
PROCESSING COMPLETED FOR L4  
L5 9 DUP REM L4 (1 DUPLICATE REMOVED)

=> d bib abs 1-  
YOU HAVE REQUESTED DATA FROM 9 ANSWERS - CONTINUE? Y/(N):Y

L5 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:1036594 CAPLUS

TI Conditional knockout \*\*\*vector\*\*\* for gene \*\*\*trapping\*\*\* and gene  
targeting using an inducible gene silencer for recombinase-mediated  
inversion

IN Askew, G. Roger; Kanki, Kim L.

PA Wyeth, John, and Brother Ltd., USA

SO U.S. Pat. Appl. Publ., 41 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2004241851	A1	20041202	US 2003-448395	20030530
PRAI US 2003-448395		20030530		

AB The invention relates to a method for conditionally knocking out and  
altering gene function for use in gene trapping and gene targeting.  
Specifically, the genetic sequence is a inducible gene silencer  
comprising: (a) a splice acceptor sequence; (b) an internal ribosomal  
entry site (IRES) sequence; (c) a nucleotide sequence coding for a  
reporter protein; (d) a polyadenylation sequence; and (e) a pair of  
oppositely oriented recombination site sequences flanking element (a)  
through (d), which cause single cycle inversions in the presence of a  
suitable recombinase enzyme. The invention also provides the sequences of  
gene silencer, element \*\*\*lox71\*\*\* and \*\*\*lox66\*\*\*, Simian virus  
40 splice acceptor and polyadenylation signal, and human gene GTX element  
IRES. The invention further relates to targeting of the inducible gene  
silencer to intron one of the HPRT locus in mouse ES cells.

L5 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:377014 CAPLUS

DN 138:363819

TI Methods for mutating genes in cells and animals using retroviral vector  
insertional mutagenesis

IN Harrington, John Joseph; Jackson, Paul David; Jiang, Li

PA Athersys, Inc., USA

SO PCT Int. Appl., 132 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2003040324	A2	20030515	WO 2002-US35405	20021104
WO 2003040324	A3	20031211		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,  
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
US 2003134421 A1 20030717 US 2002-288555 20021104  
EP 1451295 A2 20040901 EP 2002-780573 20021104  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
PRAI US 2001-330978P P 20011102  
WO 2002-US35405 W 20021104

AB The present invention is in the fields of mol. biol., cell biol., and  
genetics. The invention is directed generally to mutating genes in cells  
in vitro and in multi-cellular organisms. The invention encompasses  
methods for mutating genes in cells using polynucleotides that act as  
insertional mutagens. Such methods are used to achieve mutation of a  
single gene to achieve a desired phenotype as well as mutation of multiple  
genes, required cumulatively to achieve a desired phenotype, in a cell or  
in a multi-cellular organism. The invention is also directed to methods  
of identifying one or more mutated genes, made by the methods of the  
invention, in cells and in multi-cellular organisms, by means of a tagging  
property provided by the insertional mutagen(s). The insertional mutagen  
thus allows identification of one or more genes that are mutated by  
insertion of an insertional mutagen. The invention is also directed to  
methods for correlating a phenotype with a gene by screening or selecting  
cells that have been mutated by an insertional mutagen incorporated into  
one or more genes in a cell and identifying the gene or genes causing the  
phenotype by means of a tagging property in one or more of the insertional  
mutagens. The invention is also directed to cells and multi-cellular  
organisms created by the methods of the invention and uses of the cells  
and multicellular organisms. The invention is also directed to libraries  
of cells created by the methods of the invention and uses of the  
libraries. An exemplary \*\*\*vector\*\*\* pDKO2 designed to \*\*\*trap\*\*\*  
transcriptionally active genes using the function of the splice acceptor  
in the vector is described. pDKO2 (3'LTR-lox-S/A-x-IRES-DR-bGHpA-TK-PGK-  
lox-Y-5'LTR) contains vector backbone from self-inactivating retroviral  
vector pSIR and genetic elements including S/A branch site and splice  
acceptor (from the intron of an immunoglobulin gene heavy chain variable  
region), lox: \*\*\*lox71\*\*\* / \*\*\*lox66\*\*\* sequences, cre recombinase  
recognition sites, x-stop codons in all 3 reading frames, IRES: wild type  
internal ribosomal entry site from EMCV, DR: drug resistance gene for  
selection in the presence of neomycin, bGHpA: bovine growth hormone polyA  
sequence, TK: thymidine kinase, PGK: PGK promoter, and .PHI.:retrovirus

packaging signal. Theor., when the vector is integrated into a gene, splicing can occur using endogenous splice donor at the end of exons and the splice acceptor provided by the vector. Once this splicing event occurs, a fusion transcript will be made resulting in a truncated protein of the trapped gene. IRES enables the expression of the drug selection marker when an active promoter is trapped, which allows selection of gene trap event. The retrovirus produced from RetroPack PT67 cells is used to infect Jurkat and gene trapping is detected by RT-PCR in genes for DHFR, HPRT, FasR, and Casp8 using their specific primers.

L5 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:970816 CAPLUS  
DN 138:50870  
TI Construction of \*\*\*trapping\*\*\* \*\*\*vector\*\*\* for preparation transgenic mouse with gene knocked out  
IN Ide, Hiroyuki; Yamamura, Kenichi; Araki, Kimi  
PA Japan Science and Technology Corporation, Japan  
SO Jpn. Kokai Tokkyo Koho, 21 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002369689	A2	20021224	JP 2001-157568	20010525
PRAI JP 2001-157568		20010525		

AB The invention provides a process of construction of \*\*\*trapping\*\*\* \*\*\*vector\*\*\* for prep. transgenic mouse with gene knocked out. The \*\*\*trapping\*\*\* \*\*\*vector\*\*\* consists of several patterns of combination of inverted repeating sequence, spacer, wild type and \*\*\*mutate\*\*\* \*\*\*loxP\*\*\* sequence. The invention also provides a DNA and encoding protein sequence of gene Ayu6003 \*\*\*trapped\*\*\* with by \*\*\*trapping\*\*\* \*\*\*vector\*\*\* which is sequence homolog of E. coli Ftsj gene. The invention also provided a transgenic mouse with Ayu6003 disrupted which can be used for drug screening.

L5 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:914707 CAPLUS  
DN 138:12018  
TI Vectors with \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence for Cre-mediated gene-trap-based insertional mutagenesis, and use in transgenic or gene knockout methods  
IN Ide, Hiroyuki; Yamamura, Kenichi; Araki, Yoshimi  
PA Japan Science and Technology Corporation, Japan  
SO Jpn. Kokai Tokkyo Koho, 22 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002345477	A2	20021203	JP 2001-157567	20010525
PRAI JP 2001-157567		20010525		

AB Vectors for Cre-mediated gene trap insertional \*\*\*mutagenesis\*\*\* contg. a \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence, and use in generation of transgenic or gene knockout animals, are disclosed. The loxP sequence consisting of a inverted repeat sequence 1, and spacer sequence and a reverse repetitive sequence 2 in this order, and having mutations in the inverted repeat sequence 1 or a inverted repeat sequence 2, is used. Other genetic elements such as splicing acceptor or donor site, internal ribosomal entry site (IRES), marker gene, polyadenylation sequence, are also used. A gene trap method comprising introducing the vector into embryonic stem (ES) cells is claimed. Transgenic mice having disruptions in Tubedown-1 gene were generated from ES cells by introducing gene \*\*\*trap\*\*\* \*\*\*vectors\*\*\* of the invention.

L5 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:833542 CAPLUS  
DN 135:367645  
TI Vectors with \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence and antisense promoter for Cre-mediated gene-trap-based insertional mutagenesis, and use in transgenic or gene knockout methods  
IN Taniguchi, Masaru; Karasawa, Mika  
PA Japan Science and Technology Corporation, Japan  
SO PCT Int. Appl., 47 pp.  
CODEN: PIXXD2

DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001085973	A1	20011115	WO 2000-JP5824	20000829
W: AU, CA, US				
RW: DE, FR, GB, IT				
JP 2001321174	A2	20011120	JP 2000-138938	20000511
CA 2379095	AA	20011115	CA 2000-2379095	20000829
EP 1281765	A1	20030205	EP 2000-955091	20000829
R: DE, FR, GB, IT				
PRAI JP 2000-138938	A	20000511		
WO 2000-JP5824	W	20000829		

AB Vectors for Cre recombinase-mediated gene trap insertional \*\*\*mutagenesis\*\*\* contg. a \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence, antisense promoter transfer vector, and use in generation of embryonic

stem cells (ES cells) having deficient expression of normal wild type genes, or gene knockout animals, are disclosed. The loxP sequence consisting of a inverted repeat sequence, \*\*\*lox71\*\*\* or \*\*\*lox66\*\*\*, or FRT sequence, and spacer sequence, are used. Other genetic elements such as splicing acceptor or donor site, internal ribosomal entry site (IRES), marker gene, are also used. Reporter genes or selection marker genes such as neomycin resistance gene (neoR), puromycin resistance gene, hygromycin resistance gene, and diphtheria toxin gene, are used for ES cell prep. Thymidine kinase gene or diphtheria toxin gene fused to phosphoglycerol kinase gene promoter can be also used. A gene trap method comprising introducing the vector into embryonic stem (ES) cells is claimed. Gene knockout mice are claimed. By inserting a powerful promoter into a definite position in a mutated locus, wherein the insertion of the gene \*\*\*trap\*\*\* \*\*\*vector\*\*\* of the \*\*\*trapped\*\*\* clone has occurred, in the direction opposite to the endogenous gene, moreover, the antisense RNA against the trapped gene is compulsively transcribed and thus the transcription product from the wild type gene is disrupted.

L5 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:300862 CAPLUS  
DN 134:321557  
TI Conditional gene trapping construct for mutational inactivation of all genes in mammalian cells  
IN Kuehn, Ralf; Von Melchner, Harald; Altschmied, Joachim  
PA Artemis Pharmaceuticals GmbH, Germany; Frankgen Biotechnologie AG  
SO PCT Int. Appl., 78 pp.  
CODEN: PIXXD2

DT Patent  
LA English  
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001029208	A1	20010426	WO 2000-EP10162	20001016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1092768	A1	20010418	EP 1999-120592	19991016
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2387737	AA	20010426	CA 2000-2387737	20001016
EP 1222262	A1	20020717	EP 2000-974397	20001016
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003512053	T2	20030402	JP 2001-532191	20001016
PRAI EP 1999-120592	A	19991016		
US 1999-162016P	P	19991027		
WO 2000-EP10162	W	20001016		

AB The present invention relates to a gene trapping construct which causes conditional mutations in genes, and the use of this gene trapping construct to mutationally inactivate all cellular genes. The gene trapping constructs comprises a functional DNA segments inserted in sense or antisense direction relative to the transcriptional orientation of the gene to be trapped and being flanked by two recombinase recognition sequences RRSs which are specific to site specific recombinase capable of inverting double stranded DNA segment. In addn. the invention relates to a cell, preferably a mammalian cell which contains the above mentioned construct. Moreover, the invention relates to the use of said cell for identification and/or isolation of genes and for the creation of transgenic organisms to study gene function at various developmental stages, including the adult. In conclusion, the present invention provides a process which enables a temporally and/or spatially restricted inactivation of all genes that constitute a living organism.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:64171 CAPLUS  
DN 134:126757  
TI Vectors with \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence for Cre-mediated gene-trap-based insertional mutagenesis, and use in transgenic or gene knockout methods  
IN Yamamura, Ken-ichi; Araki, Kimi  
PA Transgenic Inc., Japan  
SO PCT Int. Appl., 55 pp.  
CODEN: PIXXD2

DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001005987	A1	20010125	WO 2000-JP2916	20000502
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,				

SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,  
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
CA 2379055 AA 20010125 CA 2000-2379055 20000502  
EP 1201759 A1 20020502 EP 2000-922969 20000502  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL  
PRAI JP 1999-200997 A 19990714  
WO 2000-JP2916 W 20000502

AB Vectors for Cre-mediated gene trap insertional \*\*\*mutagenesis\*\*\*  
contg. a \*\*\*mutated\*\*\* \*\*\*loxP\*\*\* sequence, and use in generation  
of transgenic or gene knockout animals, are disclosed. The loxP sequence  
consisting of a reverse repetitive sequence 1, and spacer sequence and a  
reverse repetitive sequence 2 in this order, a mutation is transferred  
into a part of the reverse repetitive sequence 1 or a part of the reverse  
repetitive sequence 2. Other genetic elements such as splicing acceptor  
or donor site, internal ribosomal entry site (IRES), marker gene,  
polyadenylation sequence, are also used. A gene trap method comprising  
introducing the vector into embryonic stem (ES) cells is claimed. Mouse,  
rat, rabbit, guinea pig, pig, sheep, or goat can be used as transgenic  
animals. Various gene \*\*\*trap\*\*\* \*\*\*vectors\*\*\* were constructed  
and introduced into ES cells. ES cell colonies contg. a single copy of  
the vector and retaining the \*\*\*lox71\*\*\* sequence were selected by  
.beta.-gal marker gene expression. Transgenic mouse were generated.  
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 9 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation.  
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DUPLICATE 1

AN 2000:433494 BIOSIS

DN PREV200000433494

TI Exchangeable gene trap using the Cre/mutated lox system.

AU Araki, Kimi; Imaizumi, Takashi; Sekimoto, Tomohisa; Yoshinobu, Kumiko;  
Yoshimuta, Junichiro; Akizuki, Miwa; Miura, Katsutaka; Araki, Masatake;  
Yamamura, Ken-ichi [Reprint author]

CS Institute of Molecular Embryology and Genetics, Kumamoto University School  
of Medicine, Kuhonji 4-24-1, Kumamoto, 862-0976, Japan

SO Cellular and Molecular Biology (Noisy-Le-Grand), (July, 1999) Vol. 45, No.  
5, pp. 737-750. print.

DT Article

LA English

ED Entered STN: 11 Oct 2000

Last Updated on STN: 10 Jan 2002

AB The gene trap technique is a powerful approach for characterizing and  
mutating genes involved in mouse development. However, one shortcoming of  
gene trapping is the relative inability to induce subtle mutations. This  
problem can be overcome by introducing a knock-in system into the gene  
trap strategy. Here, we have constructed a new gene \*\*\*trap\*\*\*  
\*\*\*vector\*\*\*, pU-Hachi, employing the Cre-mutated lox system (Araki et  
al., 1997), in which a pair of mutant lox, \*\*\*lox71\*\*\* and  
\*\*\*lox66\*\*\*, was used to promote targeted integrative reaction by Cre  
recombinase. The pU-Hachi carries splicing acceptor (SA)- \*\*\*lox71\*\*\*  
-internal ribosomal entry site (IRES)-beta-geo-pA-loxP-pA-pUC. By using  
this vector, we can carry out random insertional mutagenesis as the first  
step, and then we can replace the beta-geo gene with any gene of interest  
through Cre-mediated integration. We have isolated 109 trap clones  
electroporated with pU-Hachi, and analyzed their integration patterns by  
Southern blotting to select those carrying a singlecopy of the  
\*\*\*trap\*\*\* \*\*\*vector\*\*\*. By use of some of these clones, we have  
succeeded in exchanging the reporter gene at high efficiency, ranging  
between 20-80%. This integration system is also quite useful for plasmid  
rescue to recover flanking genomic sequences, because a plasmid vector  
sequence can be introduced even when the pUC sequence of the \*\*\*trap\*\*\*  
\*\*\*vector\*\*\* is lost through integration into the genome. Thus, this  
method, termed exchangeable gene trapping, has many advantages as the  
trapped clones can be utilized to express genes with any type of mutation.

L5 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:265521 CAPLUS

DN 129:36929

TI Selective disruption of genes transiently induced in differentiating mouse  
embryonic stem cells by using gene trap mutagenesis and site-specific  
recombination

AU Thorey, Irmgard S.; Muth, Katrin; Russ, Andreas P.; Otte, Jurgen;  
Reffellmann, Armin; Von Melchner, Harald

CS Laboratory for Molecular Hematology, Department of Hematology, University  
of Frankfurt Medical School, Frankfurt Am Main, 60590, Germany

SO Molecular and Cellular Biology (1998), 18(5), 3081-3088

CODEN: MCEBD4; ISSN: 0270-7306

PB American Society for Microbiology

DT Journal

LA English

AB A strategy employing gene trap mutagenesis and site-specific recombination  
(Cre/loxP) has been used to identify genes that are transiently expressed  
during early mouse development. Embryonic stem cells expressing a  
reporter plasmid that codes for neomycin phosphotransferase and  
Escherichia coli LacZ were infected with a retroviral gene \*\*\*trap\*\*\*  
\*\*\*vector\*\*\* (U3Cre) carrying coding sequences for Cre recombinase (Cre)  
in the U3 region. Activation of Cre expression from integrations into

active genes resulted in a permanent switching between the two selectable  
marker genes and consequently the expression of .beta.-galactosidase  
(.beta.-Gal). As a result, clones in which U3Cre had disrupted genes that  
were only transiently expressed could be selected. Moreover,  
U3Cre-activating cells acquired a cell autonomous marker that could be  
traced to cells and tissues of the developing embryo. Thus, when two of  
the clones with inducible U3Cre integrations were passaged in the germ  
line, they generated spatial patterns of .beta.-Gal expression.

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS  
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

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		<i>DB=PGPB,USPT,JPAB,DWPI; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L4	lox71 or lox66 or lox2272 or lox511	40
<input type="checkbox"/>	L3	L1 and L2	10
<input type="checkbox"/>	L2	(lox P or loxP) near3 (mutat\$ or alter\$)	95
<input type="checkbox"/>	L1	trap\$ near3 vector\$	1113

END OF SEARCH HISTORY